

REMARKS

In the Office Action, claims 36 and 37 were indicated as allowable if rewritten in independent form to include limitations of the base claim and any intervening claims. Applicants thank the Examiner for indicating the allowability of these claims. Claims 1-35, 38 and 39 were rejected. By this Reply and Amendment, claims 1, 5, 8, 9, 13 and 22 have been amended, claim 12 has been canceled without prejudice, and claims 1-10 and 13-39 remain pending in the present application. All claim amendments are fully supported throughout the description and figures of the specification. No new matter has been added.

In the Office Action, claims 22-37 were rejected under 35 USC 112, first paragraph. In the Office Action, it was stated that the specification was unclear as to how the sensors are connected to a plurality of sensing locations by a snorkel line. Accordingly, independent claim 22 has been amended to clarify the claim language regarding the connection of sensors to a plurality of sensing locations in that the connection to one or more of the plurality of sensing locations is formed by one or more dedicated snorkel lines. Accordingly, the rejection should be withdrawn.

Claims 5, 8 and 9 were objected to as reciting "a sensor" instead of "the sensor". Appropriate amendments have been made to each of these claims, and the objection is believed to be overcome.

Claims 1-15, 20 and 21 were rejected under 35 USC 101 as directed to non-statutory subject matter. This rejection is respectfully traversed, however independent claim 1 has been amended to clarify its language. Claim 1 presently recites measuring a characteristic with a first sensor; measuring the characteristic with a second sensor; and comparing measurements output by the first sensor and the second sensor to determine whether fluid is properly supplied to the downhole tool. Accordingly, the practical application is explicitly recited in the claims, and the rejection should be withdrawn.

Claims 22, 24, 25, 27, 29-33, 35, 38 and 39 were rejected under 35 USC 102(b) as anticipated by the Tubel et al. reference, US Publication No.: 2003/0131990. This rejection is respectfully traversed.

The Tubel et al. reference describes a method of controlling production operations with fiber optic devices. A production string 106 is described as having at least one hydraulically operable device 114 carried by a tubing 108. A fluid conduit 110 is placed on the outside or the inside of the production string and is routed via a u-joint 112 to provide a smooth transition for returning the conduit 110 to a surface 104. An optical fiber 122 passes through the entire length of the conduit 110 and returns to the surface 104. The optical fiber 122 has a plurality of sensors 120 distributed along its length. The downhole device is activated by supplying fluid under pressure through the conduit 110. (See page 5, paragraphs 0050-0055).

In the Office Action, the Tubel et al. reference is relied on as teaching "one or more sensors (120) being connected to a plurality of sensing locations by one or more dedicated snorkel lines (122)." (See Office Action, page 4). However, this characterization of the Tubel et al. reference is incorrect. Reference numeral 122 in the Tubel et al. reference is used to describe an optical fiber rather than a snorkel line. (See, for example, paragraphs 0052, 0053, 0054 and Figure 2). In fact, the Tubel et al. reference does not disclose or suggest snorkel lines or the use of "one or more sensors being connected to a plurality of sensing locations, the connection to one or more of the plurality of sensing locations being formed by one or more dedicated snorkel lines" as recited in amended, independent claim 22. Accordingly, the rejection of independent claim 22 and dependent claims 24, 25, 27, 29-33 and 35 should be withdrawn.

With respect to independent claim 38, the Office Action relies on the Tubel et al. reference as disclosing "an in-line control valve to control production through the completion tubing (see page 2 paragraph [0017], wherein Tubel et al. discloses that there is a valve downhole in the completion tubing)". (See Office Action, page 5). However, paragraph 0017 on page 2 of the Tubel et al. reference does not describe an in-line control valve to control production through the completion tubing. Instead, the Tubel et al. reference describes pressure measurements at exit valves in an injection well. (See lines 29-31 of paragraph 0017).

Accordingly, the rejection of independent claim 38 and dependent claim 39 should be withdrawn.

Claims 1-21, 26, 28 and 34 were rejected under 35 USC 103(a) as unpatentable over the Tubel et al. reference in view of the Schultz et al. reference, US Publication No.: 2004/0060696. This rejection is respectfully traversed.

The Schultz et al. reference describes a plurality of sensors 20 that are "embedded" in a packer element 14. As described in the reference, this can be accomplished by suspending the sensors 20 in a packer element mold during formation of the packer element. The sensors 20 can later be utilized to sense conditions of the packer element. (See page 1, paragraphs 0006 and 0009). Accordingly, the Schultz et al. reference does not describe a system for measuring a characteristic of a supply of fluid by incorporating a sensor into a downhole tool.

Combining the Schultz et al. reference and the Tubel et al. reference does not disclose or suggest all of the elements of amended, independent claim 1. For example, the combination of references does not describe measuring a characteristic of a supply of fluid with a first sensor; and measuring the same characteristic of the fluid via a second sensor in or near the downhole tool and separate from the control line supplying the fluid to actuate the downhole tool, as set forth in amended, independent claim 1. The Schultz et al. reference provides no teaching regarding measurement of a characteristic of the supply of fluid, but rather simply teaches embedding sensors in a packer element to sense conditions of the packer element. Accordingly, elements of the claims are not found in the cited references, and no prima facie case of obviousness has been established with respect to independent claim 1 and its dependent claims 2-21. The rejection of these claims should be withdrawn.

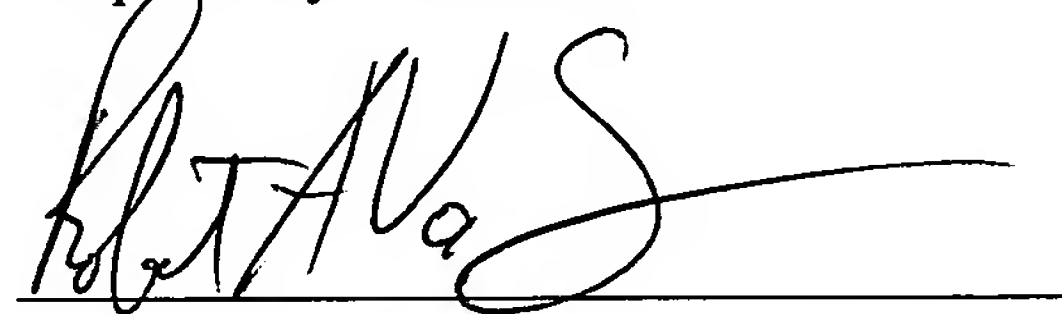
Claims 26, 28 and 34 ultimately depend from independent claim 22 and are patentable for the reasons provided above with respect to independent claim 22. The Schultz et al. reference does not obviate the deficiencies of disclosure in the Tubel et al. reference with respect to independent claim 22 or its dependent claims 26, 28 and 34. Accordingly, the rejection of these claims also should be withdrawn.

Claims 23 and 26 were rejected under 35 USC 103(a) as unpatentable over the Tubel et al. reference. This rejection is respectfully traversed, and Applicants respectfully disagree with the characterization of the Tubel et al. reference teachings as described in the previous Reply and Amendment. Additionally, claims 23 and 26 ultimately depend from independent claim 22. Accordingly these dependent claims are patentable for the reasons provided above with respect to independent claim 22 as well as for the unique subject matter recited therein.

In view of the foregoing remarks, the pending claims are believed to be in condition for allowance. However, if the Examiner believes certain amendments are necessary to clarify the present claims or if the Examiner wishes to resolve other issues by way of a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number indicated below.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. A. Van Someren', written over a horizontal line.

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